

Balancing accuracy...

...and great efficacy



BALANCE

VNG/ENG

ICS Chartr 200

 **otometrics**
MADSEN • AURICAL • ICS



The solution for quality care

ICS Chartr 200 provides you with a comprehensive, solution based on years of practical experience. We have worked closely with the leading balance experts to ensure the greatest possible ease of use and the most accurate test results.

VNG, ENG or both

The ICS Chartr 200 provides a comprehensive test battery for diagnosing a wide range of balance and dizziness disorders allowing you to care for your patient from diagnosis through treatment. Whether you choose Videonystagmography (VNG) or Electronystagmography (ENG), you will benefit from a complete, portable, easy-to-use system. Both VNG and ENG are primary diagnostic tools for investigating the source of a vestibular disorder.

VNG directly records and measures eye movements, and offers the following advantages:

- Ability to see the patient's eyes at all times
- Video recording of the eyes which assists with diagnosis
- No drift in the tracings
- Reduction of disposable supply cost

ENG (2 or 4 channel) measures eye movements by indirectly recording the cornea-retinal potential from the eyes and has the advantage of testing some patients who cannot be tested using VNG.

VNG and ENG complement each other assuring that the clinic does not have to turn away patients in need of vestibular testing. The Chartr 200 offers a shared database for VNG and ENG.

The industry leader

The "Chartr Experience" includes far more than just industry leading hardware and software. We view each ICS Chartr 200 customer as a partner in advanced vestibular testing. With the high-level training and support offered, our reputation as the industry leader is both earned and unmatched.

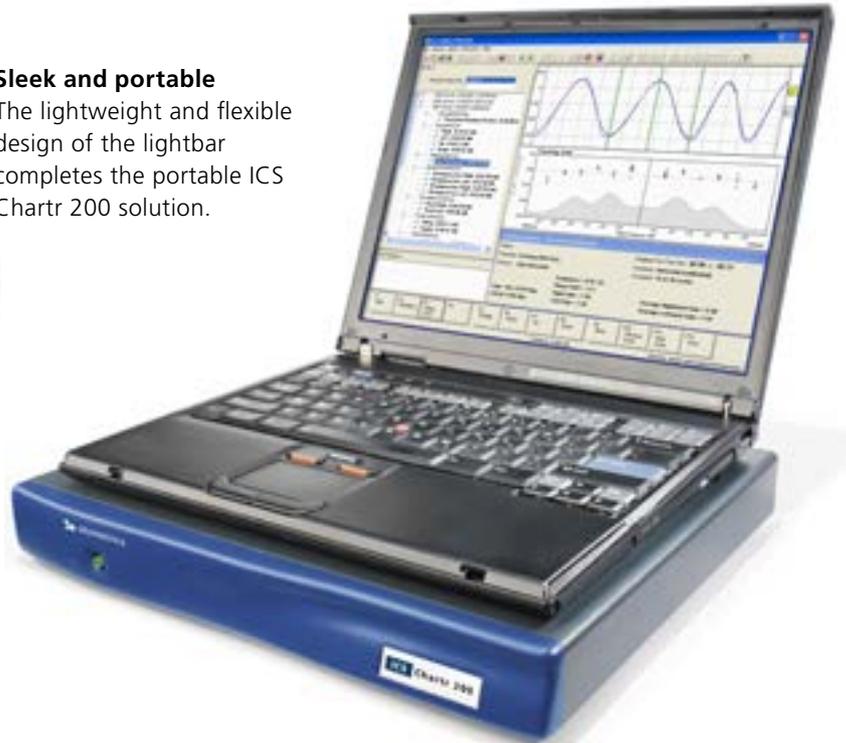
Superior Hardware

- Dedicated hardware assures a smooth stimulus presentation and accurate data collection
- Ranger on the lightbar ensures that the patient is always the right distance from the stimulus providing the clinician with on-going feedback of the patient's position
- Data collection is buffered in hardware giving the computer the freedom to perform real-time analysis of the data without lagging behind or dropping data points
- Integrated ICS irrigators offer ease of use and accuracy through automatic temperature switching



Sleek and portable

The lightweight and flexible design of the lightbar completes the portable ICS Chartr 200 solution.



Tools that ease your workday

Following in the steps of pioneering balance clinics, you will benefit from the advantages of our innovative VNG/ENG system. Using the familiar Windows® user interface, our integrated software, shared databases, and common reporting templates are quick to learn and easy to use.

Time saving features

The ICS Chartr 200 software offers time saving options. Once data collection is complete the data will be saved, analyzed and displayed automatically. Auto fixation light allows the user to set a time when the fixation light will automatically turn on and off during caloric testing. Caloric countdown timer will display how long it has been since the last caloric test was completed.

Integrated irrigation

Make caloric testing even easier when using the integrated ICS air or water irrigator.

- Selecting the caloric protocol will select the correct temperature on the irrigator
- Using the trigger button on the irrigator handle or the foot switch will start the countdown timer and VNG/ENG tracing simultaneously

Comprehensive reports

Detailed, customized reports are automatically created in a format that is easily understood by physicians, audiologists and other professionals. Concise, organized reports, stored in one common database, make it easy to share data.

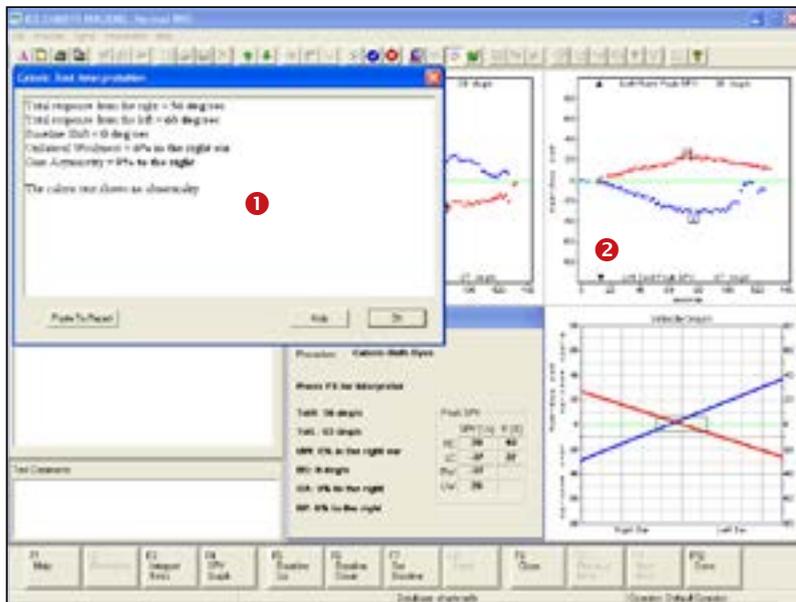
Digital video clips for fast review

Easy recording, review, and transfer of digital video sequences allow you to share information with colleagues – and even send video files as e-mail attachments. Patient's eyes and buttons to start and stop the recording are visible during the entire data collection.

Patient care with a personal touch

Easy-access foot switch allows patient data collection while staying close to your patient. The convenient remote control lets you operate the software from a distance so you can maintain personal contact with your patients.





1 The Interpretation Assistant™ is an integral part of the ICS Chartr 200 system. It offers you assistance with the interpretation of both static positional tests and caloric tests.

2 On-screen PODS and Butterfly. The ICS Chartr 200 displays caloric PODS and Butterfly graphs on a single screen and page.



Kamran Barin, Ph.D.

Integrated analysis developed by professionals

For more than 25 years, ENG/VNG systems developed by ICS have been synonymous with reliable data collection and quality. The Chartr software platform, first developed by thought leader Dr. Charles Stockwell and continuously refined by Dr. Kamran Barin, is the gold-standard in efficient work flow and data analysis.

VNG Recording Options

The VNG system offers several options for recording the patient's eye movements:

- For conjugate eye movements, the average movements of right and left eyes are recorded
- For disconjugate eye movements, independent movements of each eye are recorded simultaneously
- For special cases, monocular movements of the selected eye are recorded

All three options can be easily accessed using the binocular VG-40 goggles, 3 easy-to-use toolbar icons and test protocol menu.

Interpretation Assistant™

After completing the static positional or caloric tests, the Interpretation Assistant™ provides assistance with interpreting the test results. The validation of caloric results is based on the physiology of the vestibular responses and has been evaluated in a large patient population.

The cutoff values for different caloric test and static position test parameters such as unilateral weakness, nystagmus

intensity, and others are fully customizable so that each laboratory can use its own normative limits.

When the results of the data are not explainable by any physiology or pathophysiology of the vestibular system, the Interpretation Assistant guides the clinician with suggestions.

Interpretation of these results is presented in clear text to assist in the patient counseling and the text can be transferred to the patient report.

The Interpretation Assistant™ was developed in collaboration with Kamran Barin, Ph.D.

Kamran Barin, Ph.D. is a recognized expert with an extensive record of publications and experience in the area of vestibular testing.

The default normative values were developed in collaboration with Dr. Barin. His studies have played a vital role in creating the unique algorithm that forms the foundation for both the interpretation assistance and the test capability. Dr. Barin has taught seminars worldwide in different areas of vestibular assessment and rehabilitation.

Learn more about Dr. Barin's ICS VNG/ENG courses at: www.otometrics.com/vngcourse

Balance clinics require comprehensible solutions for diagnosing dizzy patients. The ICS Chartr 200 provides you with a comprehensive, user-friendly VNG/ENG solution based on years of practical experience and the largest installed equipment base. Moreover, we work closely with the leading balance experts to offer superior product training, greatest possible ease of use and the most accurate test results.

ICS Chartr 200:

Bringing accuracy and efficiency into balance testing



BALANCE

Integrated irrigation with the new ICS AirCal

ICS AirCal integrates the irrigation function with Otometrics' VNG/ENG solutions enabling you to stay close to the patient while accurately completing the caloric test battery.

- Small footprint - Otometrics VNG/ENG solutions can be stacked with ICS AirCal
- Direct communication with Otometrics VNG/ENG solutions

Irrigation with the ICS AirCal provides a modern choice for gold standard caloric irrigation. It combines the convenience and patient comfort of air, with the precision of water irrigation, enabling you to do caloric testing with confidence. With no water to catch, the entire irrigation process is easier for the clinician and more pleasant for the patient.

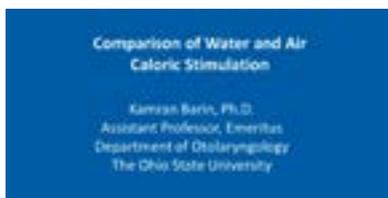
▶ See more at www.otometrics.com/aircal



Technical Specifications	
Interface:	USB to PC
Power supply AC/DC adapter:	Input: 100-240 VAC / 50-60 Hz / 700 mA. Output: 15V DC / 2A
Optional isolation transformer:	115-230 VAC / 10/5 A
System capabilities:	
Inputs VNG:	2 eyes/4 channels; full binocular testing (simultaneous collection of signals from both eyes)
Inputs ENG:	2 or 4 channels
CMR ratio:	>100 dB at 50/60 Hz
Channel Frequency Response:	12dB/octave low pass filter with a cutoff frequency of 35 Hz
Input Impedance:	Channel 1: > 5.5 Mohms Channel 2,3,4: > 8 Mohms
Coupling:	DC response
Resolution:	0.1° typical (horizontal and vertical)
Linearity:	1% full scale horizontal 1.2% full scale vertical
Sampling rate:	Full 60 Hz for all tests
Eye tracking:	± 30° horizontal, ± 30° vertical
Software:	Windows graphical user Interface; high performance analysis software; database storage of test data; sophisticated patient and test data management
Additional capabilities:	See-through for external targets; vision denied for testing in complete darkness
Weight:	
ICS Chartr 200 hardware:	5 lbs 7 oz (2.7 kg)
Lightbar:	5 lbs 3 oz (2.38 kg)
Binocular Goggles:	15.2 oz (430 g)
Dimensions:	
ICS Chartr 200 hardware:	1.65 x 13.7 x 11.3" / 4,2 x 34,8 x 28,7 cm
Lightbar (with ends closed):	4.63 x 35.75 x 4.75" / 11,8 x 90,8 x 12,1 cm
PC requirements:	
Processor:	Pentium M or Pentium 4
RAM:	Minimum 1 GB RAM
Bus support:	USB 2.0
OS:	Microsoft® XP Professional - Service Pack 2, Vista® Business or Windows 7 Professional 32 or 64 bit
CD drive:	CD-R/W
Display resolution:	Minimum screen resolution of 1024 (horiz) x 768 (vert) at 96 dpi. At large size (120 dpi) setting, minimum resolution is 1280 (horiz) x 960 (vert).
Display color:	32 bit color

The ICS Chartr 200 system comes with ICS VNG/ENG software, lightweight lightbar, VG40 goggles, remote control, ENG cable (optional), irrigator cable, USB cable (20ft), power supply, ENG external loop-back test fixture (optional), installation/setup guide (printed), user manual (CD and under Help in the software) and ICS support material. Lightbar stand and carrying case are optional.

Watch Dr. Kamran Barin's video guides on caloric testing



otometrics.com/caloricguides

Sign up for Dr. Kamran Barin's VNG/ENG course



otometrics.com/vngcourse

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